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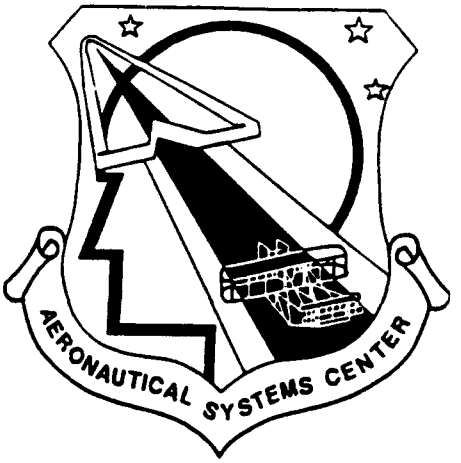

MODULAR SIMULATOR SYSTEM (MSS)

INTERFACE REQUIREMENTS SPECIFICATION FOR THE GENERIC MSS

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AUGUST 1993

FINAL REPORT

SYSTEMS ENGINEERING DIVISION
AERONAUTICAL SYSTEMS CENTER
AIR FORCE MATERIEL COMMAND
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13. ABSTRACT *(Maximum 200 words)*

This document describes the interface requirements for the Modular Simulator System. Tailoring will be necessary to meet specific training system requirements. Specific tailoring instructions are included for each paragraph. It is suggested that the user read the "Modular Simulator Engineering Design Guide" and the "Modular Simulator Management Guide" prior to tailoring this specification.

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Preface

This generic Modular Simulator System (MSS) Interface Requirements Specification (IRS) has been developed in accordance with DI-MCCR-80026A, Data Item Description for Interface Requirements Specification. This specification is is designed to be tailored for a specific aircraft training device or family of aircraft training devices. Training devices may consist of Weapon System Trainers (WST), Operational Flight Trainers (OFT), Cockpit Procedures Trainers (CPT), Part Task Trainers (PTT), etc.

Tailoring will be necessary to meet specific training system requirements. The tailoring should be accomplished so as not to violate the goals and intent of the MSS concept. It is assumed that users of this document have a familiarity with MSS design concepts and architecture, and general working knowledge of aircraft training systems. It is suggested that the user read the "Modular Simulator Engineering Design Guide" (D495-10440-1) and the "Modular Simulator Management Guide" (D495-10439-1) prior to tailoring this specification. These guides provide an overview of the MSS architecture, in-depth discussion of its application, and lessons learned from previous applications.

Each segment in the MSS architecture provides a portion of the overall system functionality. Similar functions and operations were grouped in each segment based on past experience, areas of design expertise, and management of inter-segment communication. To promote reuse of the segments and gain the maximum benefits of using the MSS approach, it is suggested that the user adhere to the generic functional allocation. Interfaces between segments should remain relatively constant from application to application. The application vehicle is considered to be military aircraft (e.g. fixed wing, variable geometry or rotary wing), although the MSS concepts and architecture can also be applied to ground and sea vehicles.

This specification contains specific tailoring instructions for each paragraph. The instructions are contained within the paragraphs, and are identified by blank spaces and/or italicized instructions. When the tailoring process is complete, the italicized tailoring instructions should have been replaced by the application specific text or deleted from the specification. Paragraphs which do not apply to a particular application should not be deleted. They should be identified as "Not Applicable" to maintain paragraph numbering consistency.

1. SCOPE

1.1 Identification. This Interface Requirements Specification (IRS) describes the interface requirements for the ***(insert application aircraft)*** Modular Simulator System (MSS). The requirements defined in this specification shall apply to all inter-segment interfaces within the ***(insert application aircraft)*** MSS.

(This paragraph must be tailored to identify program unique identifiers and/or system identification).

1.2 System Overview. The MSS defines a generic, standard architecture for a training simulator. The architecture consists of a interface scheme, a partitioning scheme, and an allocation of requirements to the various partitioned components. This document specifies the interface requirements for the ***(insert application aircraft)*** MSS. Figure 1.2-1 illustrates the fundamental partitioning of the ***(insert application aircraft)*** MSS. Individual segments communicate with each other via the MSS Virtual Network (VNET). The VNET communication architecture is a conceptual mechanism using a message passing protocol and independent of the hardware implementation. The goal of the VNET is to provide a generic communication architecture that is adaptable to both high and low end applications while accommodating computer technology advances.

For the ***(insert application aircraft)*** MSS, the following MSS segments are required:

a. Flight Station (FS)

b. Flight Controls (FC)

c. Flight Dynamics (FD)

d. Propulsion (PRO)

e. Navigation/Communication (NAV)

f. Weapons (WPN)

g. Radar (RDR)

h. Electronic Warfare (EW)

i. Physical Cues (PHC)

j. Visual (VIS)

k. Instructor Operator Station (IOS)

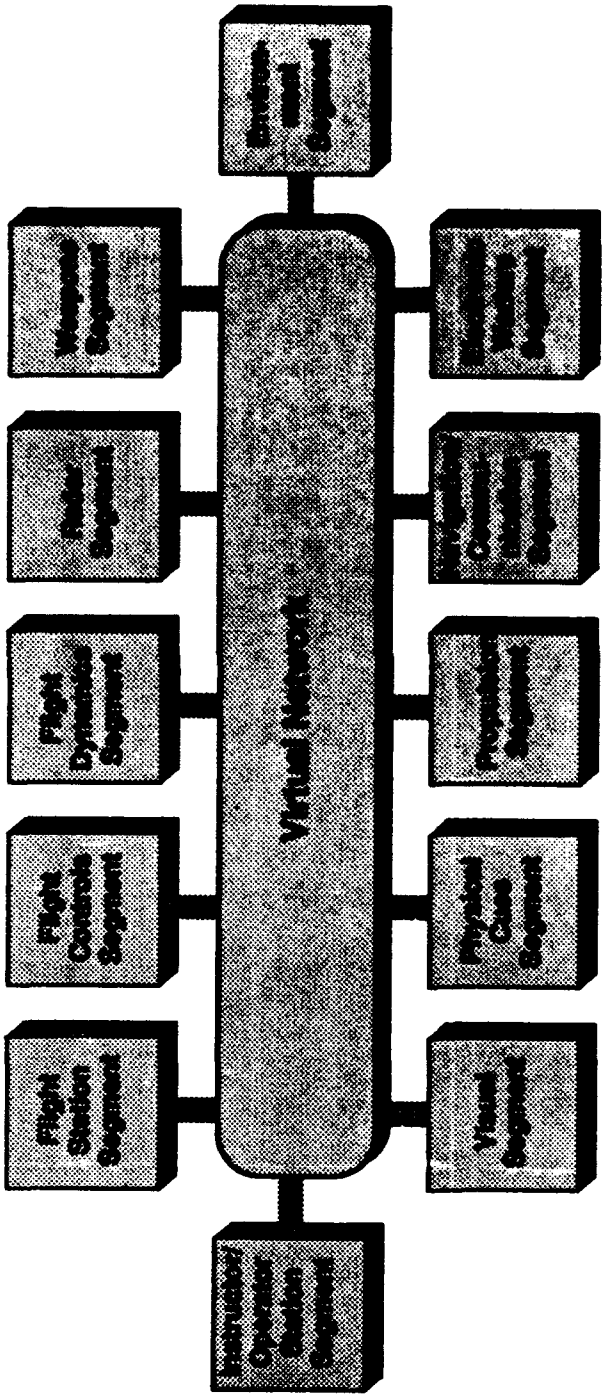

Figure 1.2-1 Fundamental MSS Partitioning

1. Environment (ENV)

(The list of MSS segments should be tailored to correspond with the requirements of this application aircraft training device. The fundamental partitioning for the MSS consists of twelve unique segments. Any one or more of these segments may be combined within a single computational system. In addition, Figure 1.2-1 must be tailored to reflect the application aircraft top level architecture. Finally, this paragraph should be tailored to provide a unique description of the system.)

1.1 Document Overview. This Interface Requirements Specification (IRS) establishes the interface requirements for development of the ***(insert application aircraft)*** MSS interfaces. It also defines the types and formats of the data to be transmitted via these interfaces. This IRS is a companion document to the ***(insert application aircraft)*** MSS System/Segment Specification (SSS) and describes the complete application interface requirements of the ***(insert application aircraft)*** MSS. This document is used to satisfy two purposes:

a. Provide the interface requirements information necessary for segment design.

b. Provide requirements information necessary to analyze impact of change caused by modification of the interface requirements.

The data presented describes all inter-segment interface data elements used by the ***(insert application aircraft)*** MSS, and the required behavior which must be met by the design. Further detailed interface information is provided by the Interface Design Document (IDD) for the ***(insert application aircraft)*** MSS.

(This paragraph should not require tailoring, other than inserting the application aircraft identifier.)

2. APPLICABLE DOCUMENTS

2.1 Government Documents. The following documents of the exact issue shown form a part of this specification to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this specification, the contents of this specification shall be the superseding requirement.

SPECIFICATIONS:

Federal - ***(Identify applicable federal specifications)***

Military - ***(Identify applicable military specifications)***

Other Government Agency - ***(Identify applicable government specifications)***

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Other Government Agency - ***(Identify applicable government standards)***

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Handbooks - ***(Identify applicable handbooks)***

Bulletins - ***(Identify applicable bulletins)***

Copies of specifications, standards, drawings, and publications required by suppliers in connection with specified procurement functions should be obtained from the contracting agency or as directed by the contracting officer.

(In this paragraph list only those documents which are explicitly referenced within this specification. If a requirements paragraph is tailored to reference a System/Segment Specification Volume paragraph, and that paragraph contains a referenced document, list it here. All requirements and references in the System Specification Volume I are requirements of this specification unless specifically excluded in this document.)

2.2 Non-Government Documents. The following documents of the exact issue shown form a part of this specification to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this specification, the contents of this specification shall be the superseding requirement.

SPECIFICATIONS:

(Identify applicable non-government specifications)

STANDARDS:

(Identify applicable non-government standards)

DRAWINGS:

(Identify applicable non-government drawings)

OTHER PUBLICATIONS:

(Identify additional, applicable non-government publications)

Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal Agencies.

(In this paragraph list only those documents which are explicitly referenced within this specification. If a requirements paragraph is tailored to reference a System/Segment Specification Volume paragraph, and that paragraph contains a referenced document, list it here. All requirements and references in the System Specification Volume I are requirements of this specification unless specifically excluded in this document.)

3. INTERFACE SPECIFICATION

Interface requirements in this specification have been derived from system level requirements established by the ***(insert application aircraft)*** MSS System/Segment Specification and are based on the resulting system design.

(This paragraph should not require tailoring, other than inserting the application aircraft identifier.)

3.1 Interface Diagrams. The ***(insert application aircraft)*** MSS top level system architecture is shown in Figure 3.1-1. This figure illustrates the top level interconnections between segment components including Hardware Configuration Items (HWCI) and Computer Software Configuration Items (CSCI) for the ***(insert application aircraft)*** MSS. The figure also illustrates the inter-segment interface which shall consist of messages passed along a VNET. Figures 3.1-2 through 3.1-13 summarize the inter-segment message traffic.

(This paragraph must be tailored to specify the actual instantiation of the VNET for this application aircraft MSS. Figure 3.1-1 should be tailored to identify the appropriate CSCIs and HWCIs required for the application aircraft MSS. In addition, it should be tailored to identify the segments present and absent in this application aircraft MSS. Figures 3.1-2 thru 3.1-13 should be tailored to identify the appropriate inter-segment interface messages for the application aircraft MSS.)

3.2 MSS Segment Interfaces. The MSS interface specification is composed of interface requirements and data requirements. The interface requirements specify broad system level requirements such as synchronization, timing, protocols, and hardware interfaces applicable to all MSS segments. The focus of the interface requirements is on inter-segment communication, which occurs via the VNET. The interface requirements also address issues relating to interfacing with HWCIs. The data requirements also specify inter-segment communication, with focus on the various data elements (i.e., messages) passed between the MSS segments via the VNET.

The MSS concept levies no requirements for intra-segment interfaces. However, the following general guidelines should be used:

a. Intra-segment interfaces should support the inter-segment messages.

b. Intra-segment interfaces should reflect the design partition.

c. Intra-segment interfaces should not interfere with external interfaces or be used outside of the segment.

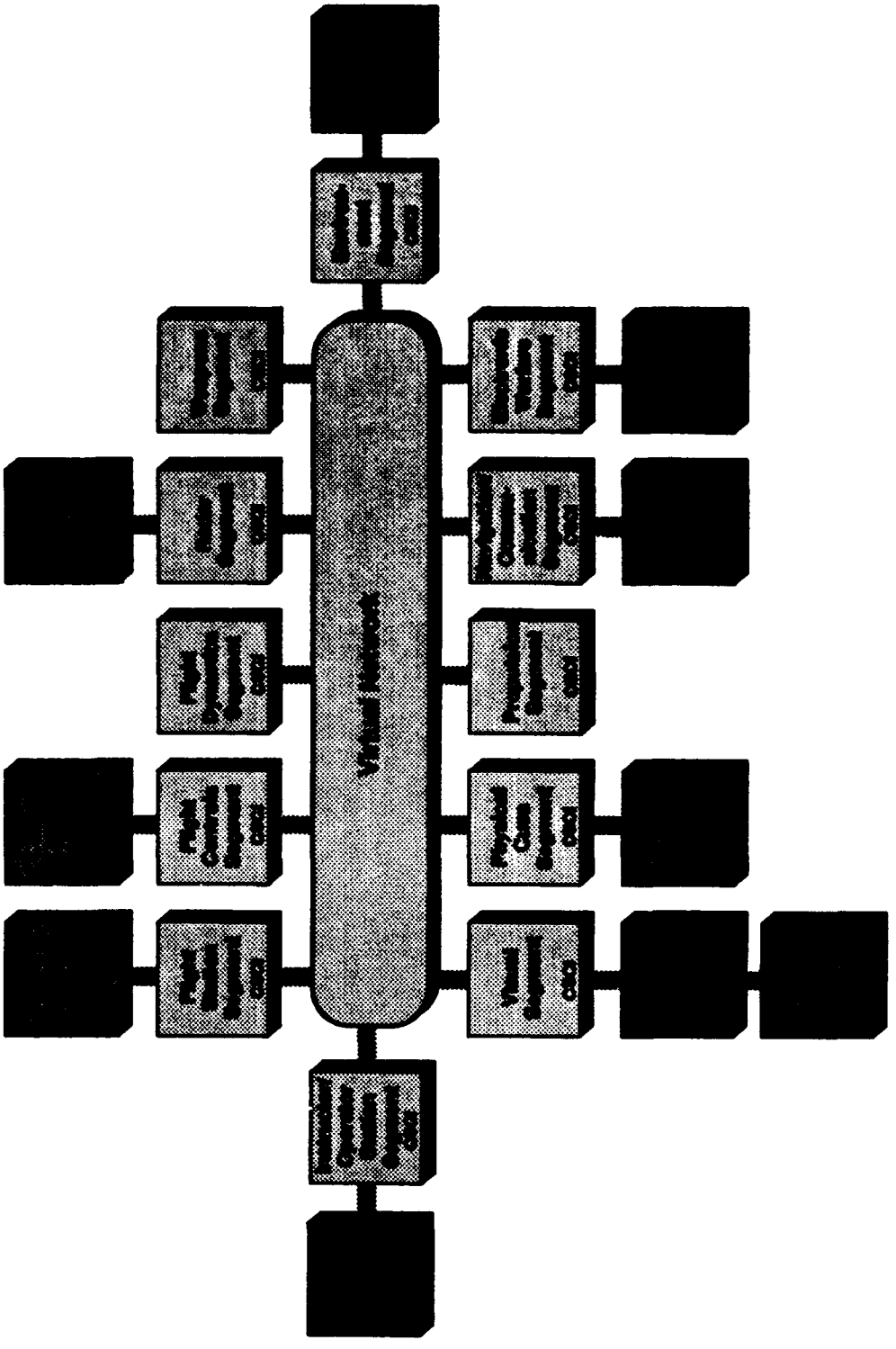

Figure 3.1-1 MSS Interconnect Diagram

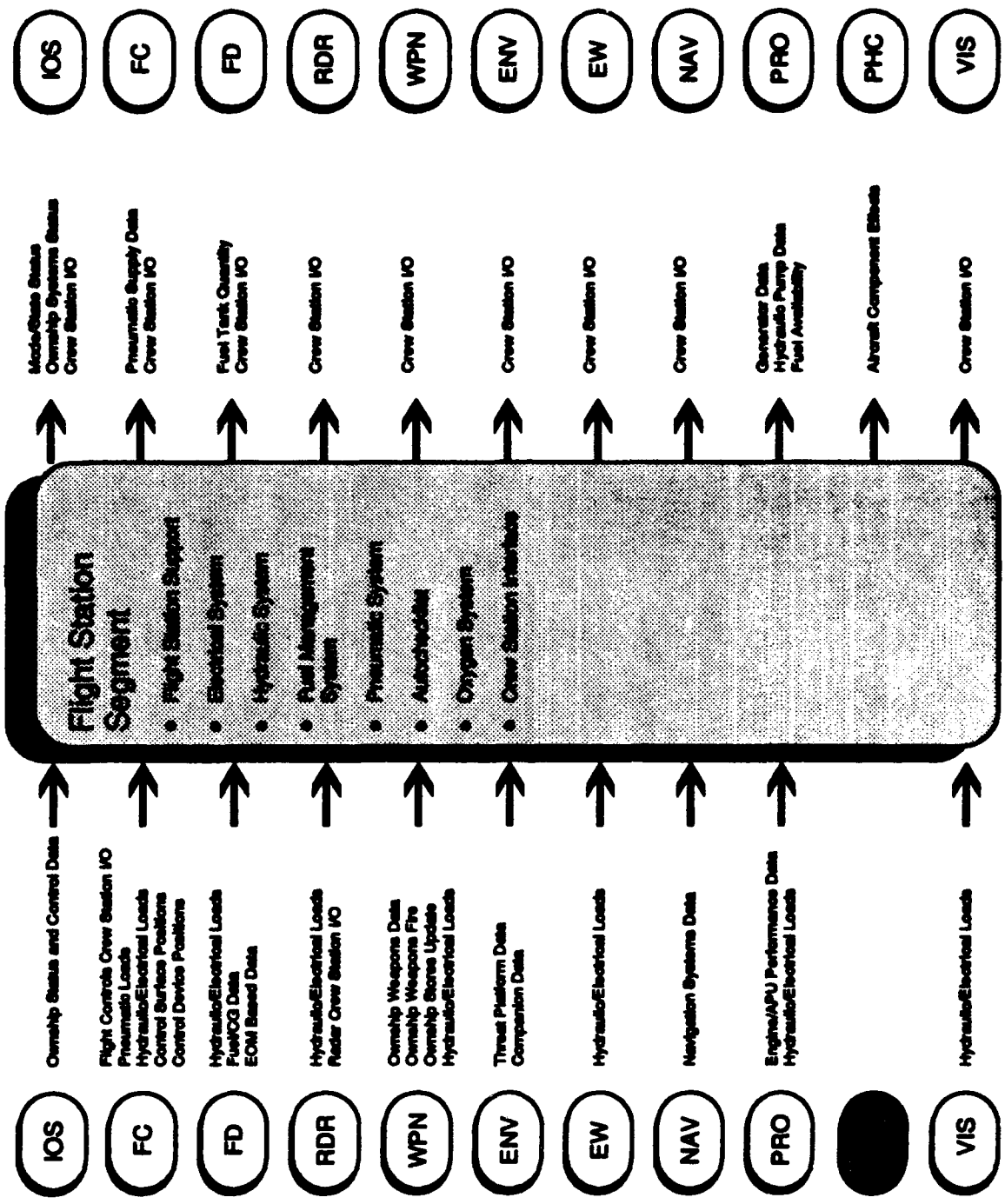

Figure 3.1-2 Flight Station Segment

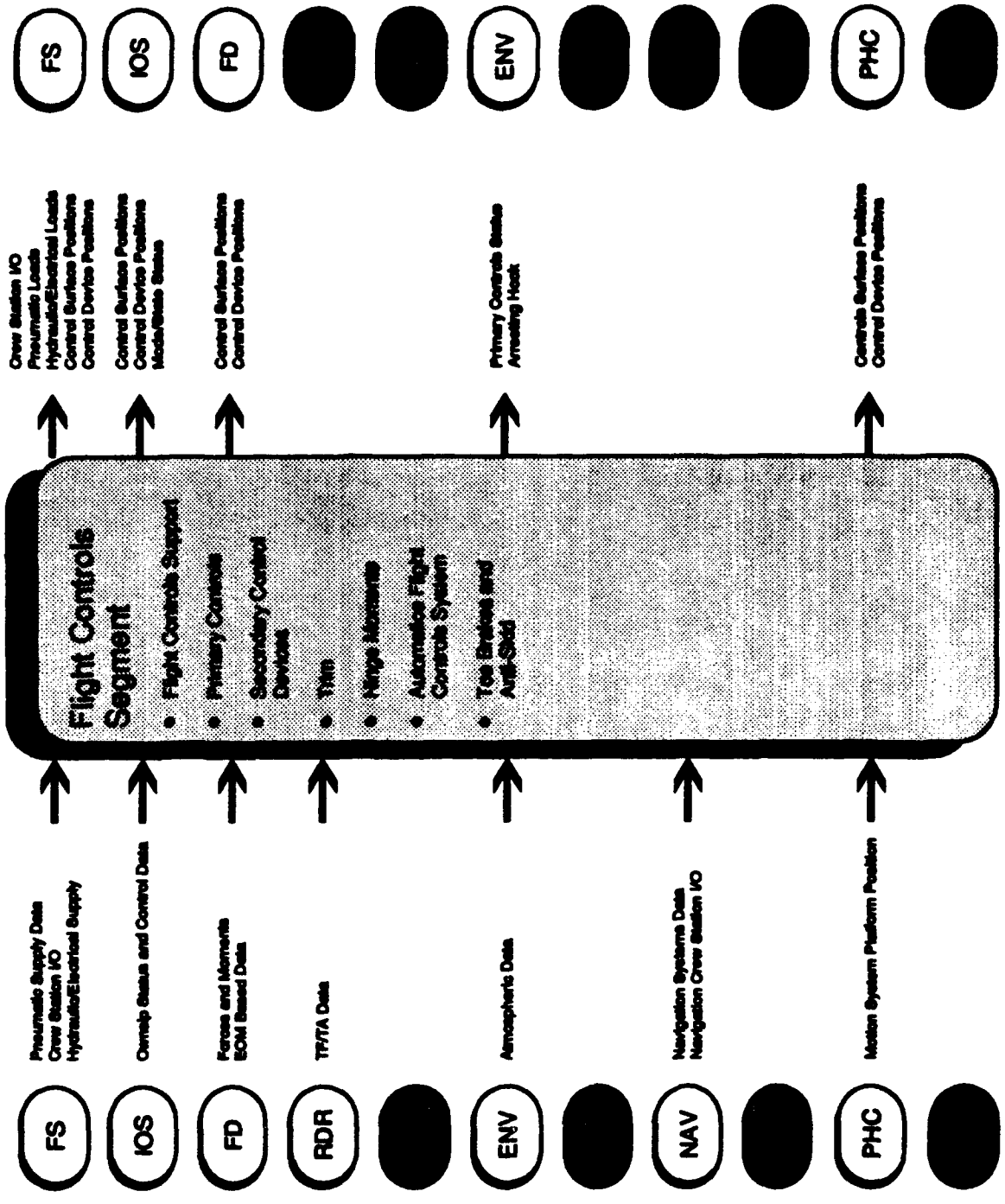

Figure 3.1-3 Flight Controls Segment

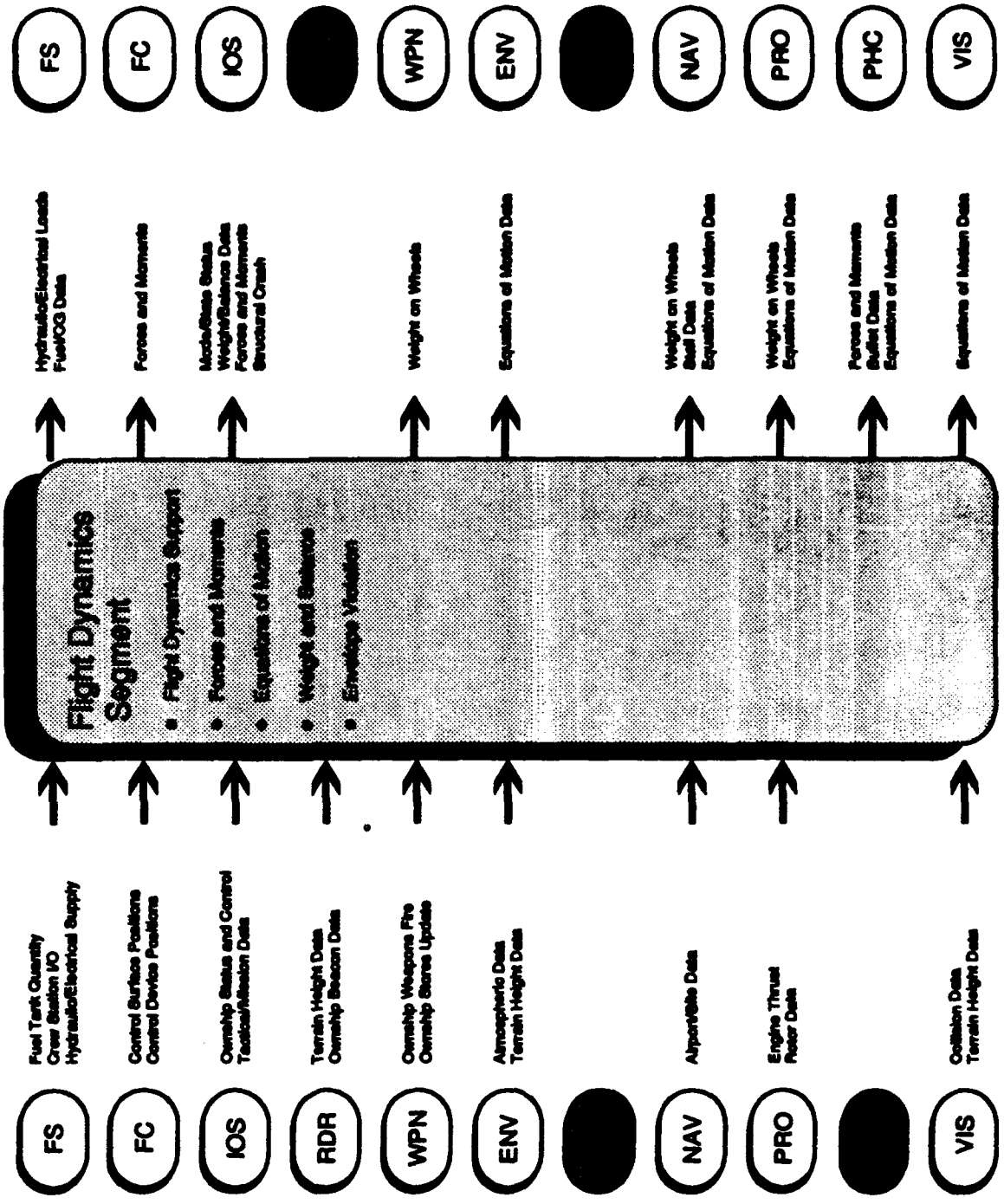

Figure 3.1-4 Flight Dynamics Segment

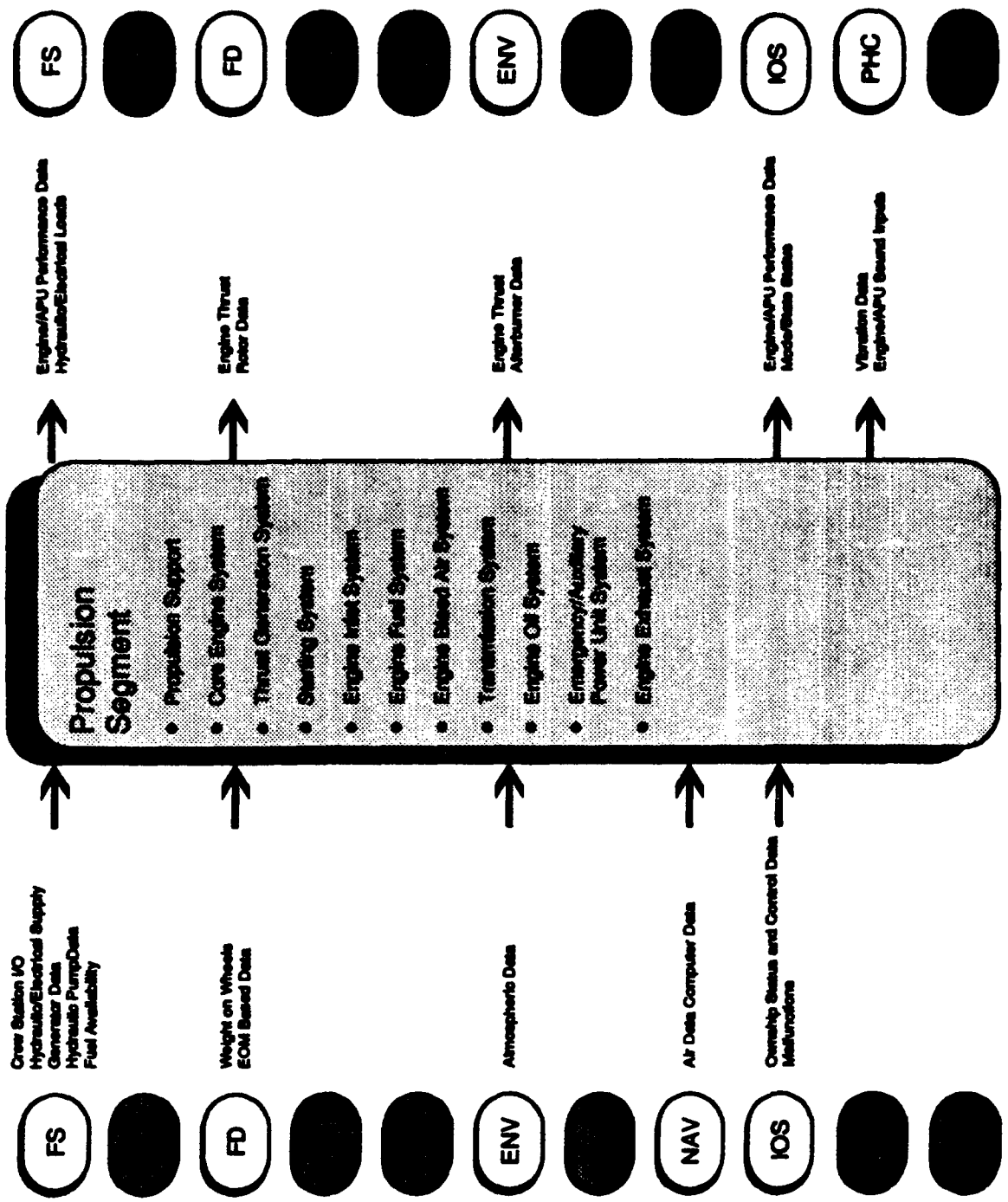

Figure 3.1-5 Propulsion Segment

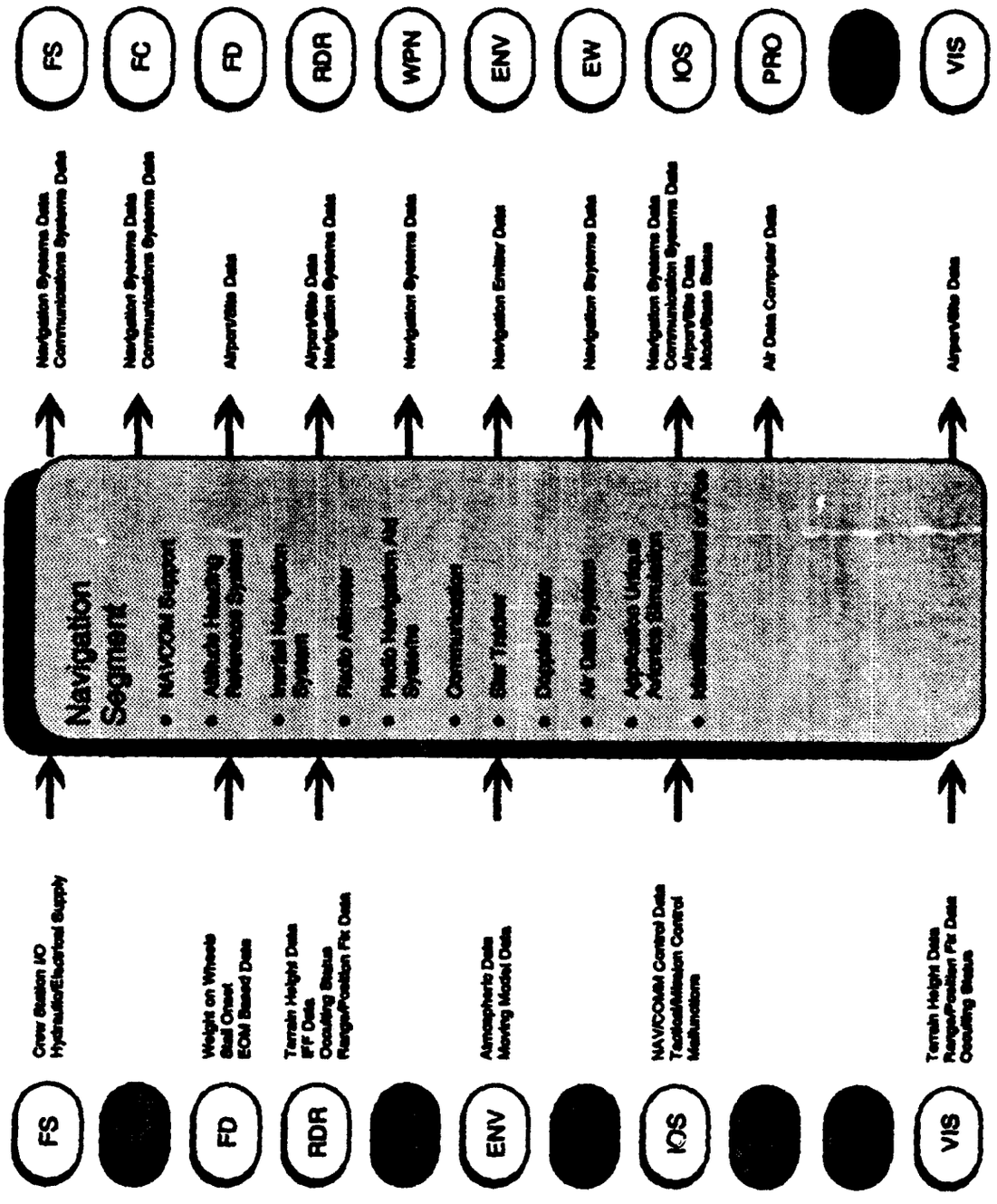

Figure 3.1-6 Navigation/Communication Segment

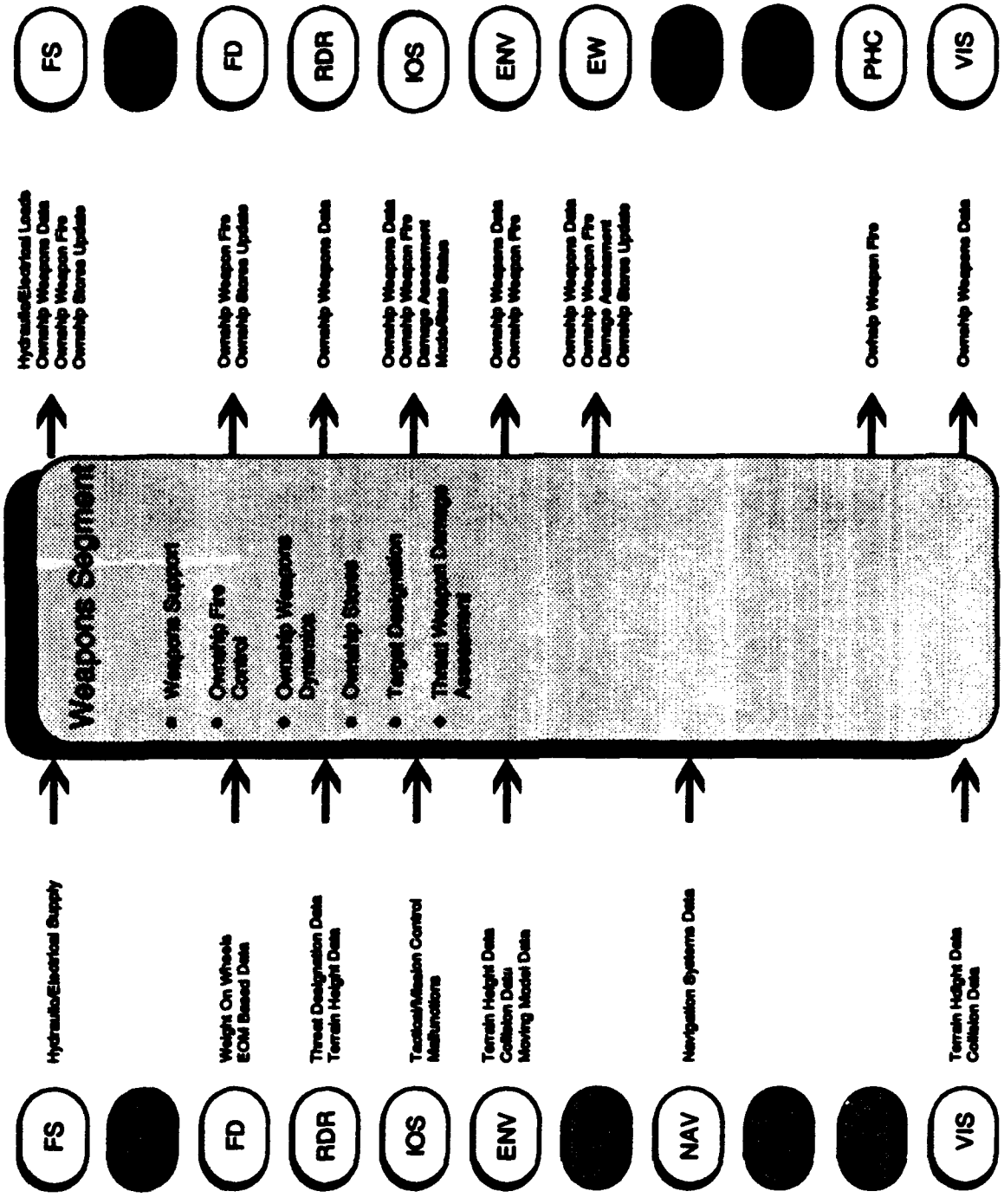

Figure 3.1-7 Weapons Segment

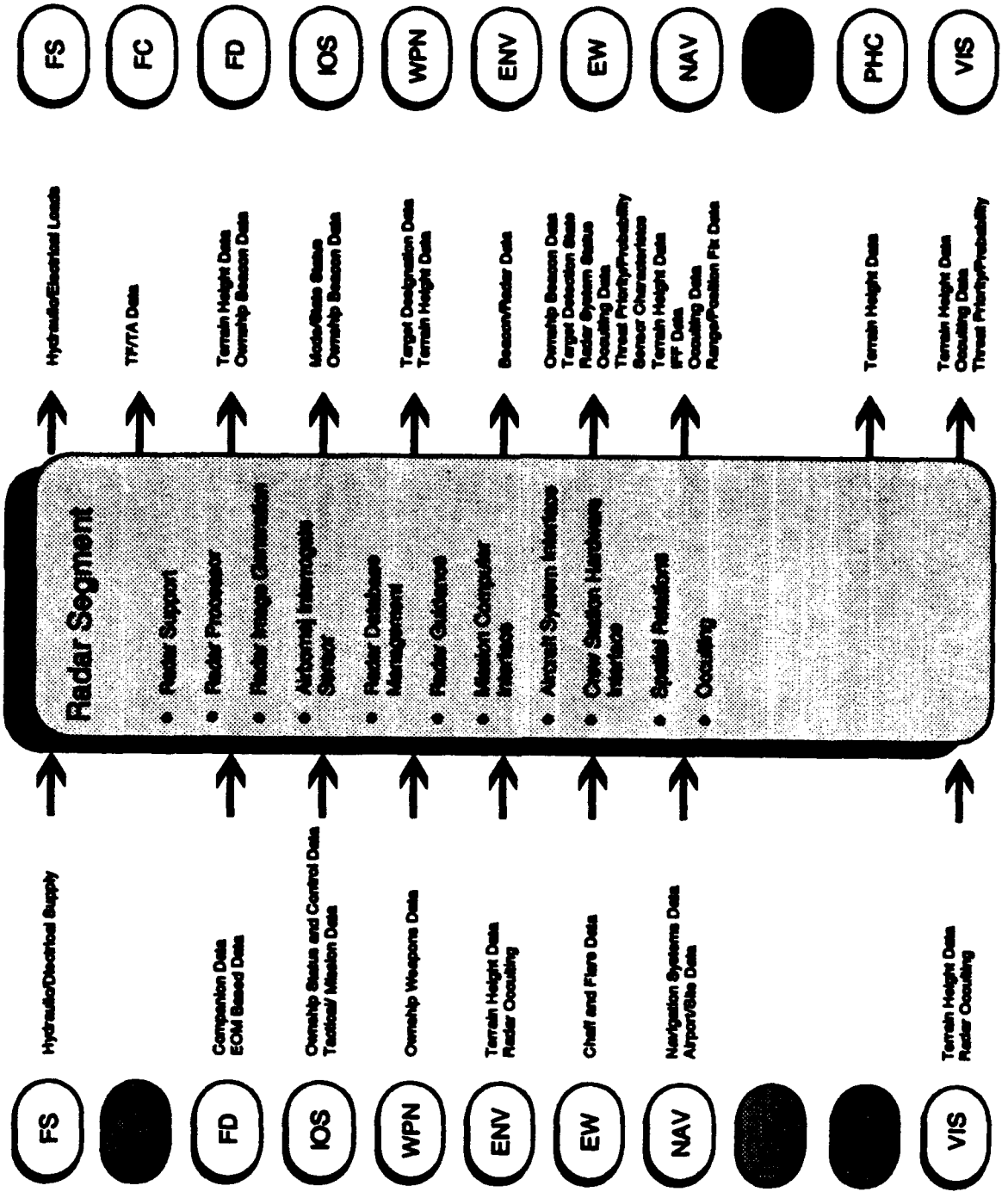

Figure 3.1-8 Radar Segment

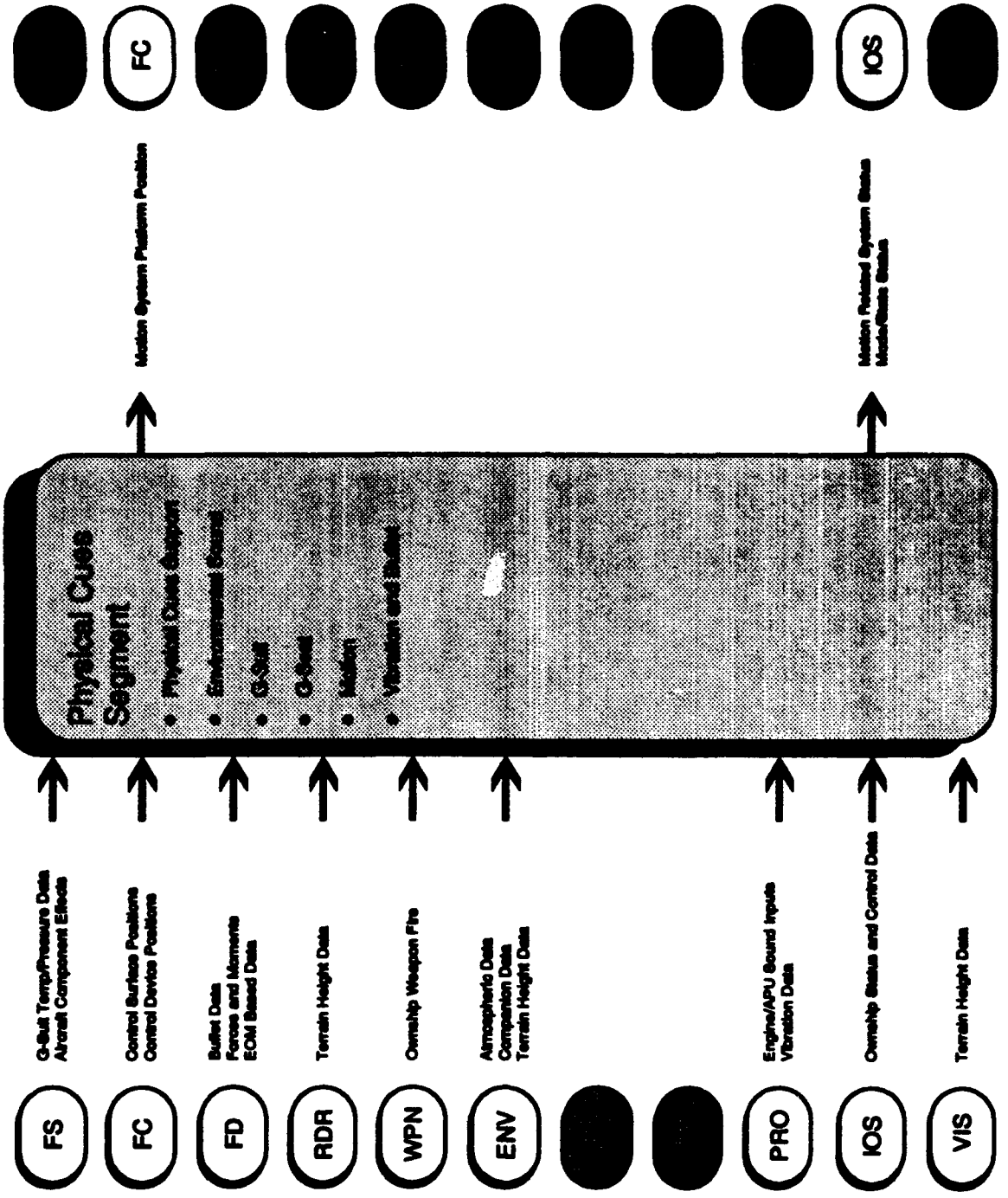

Figure 3.1-9 Physical Cues Segment

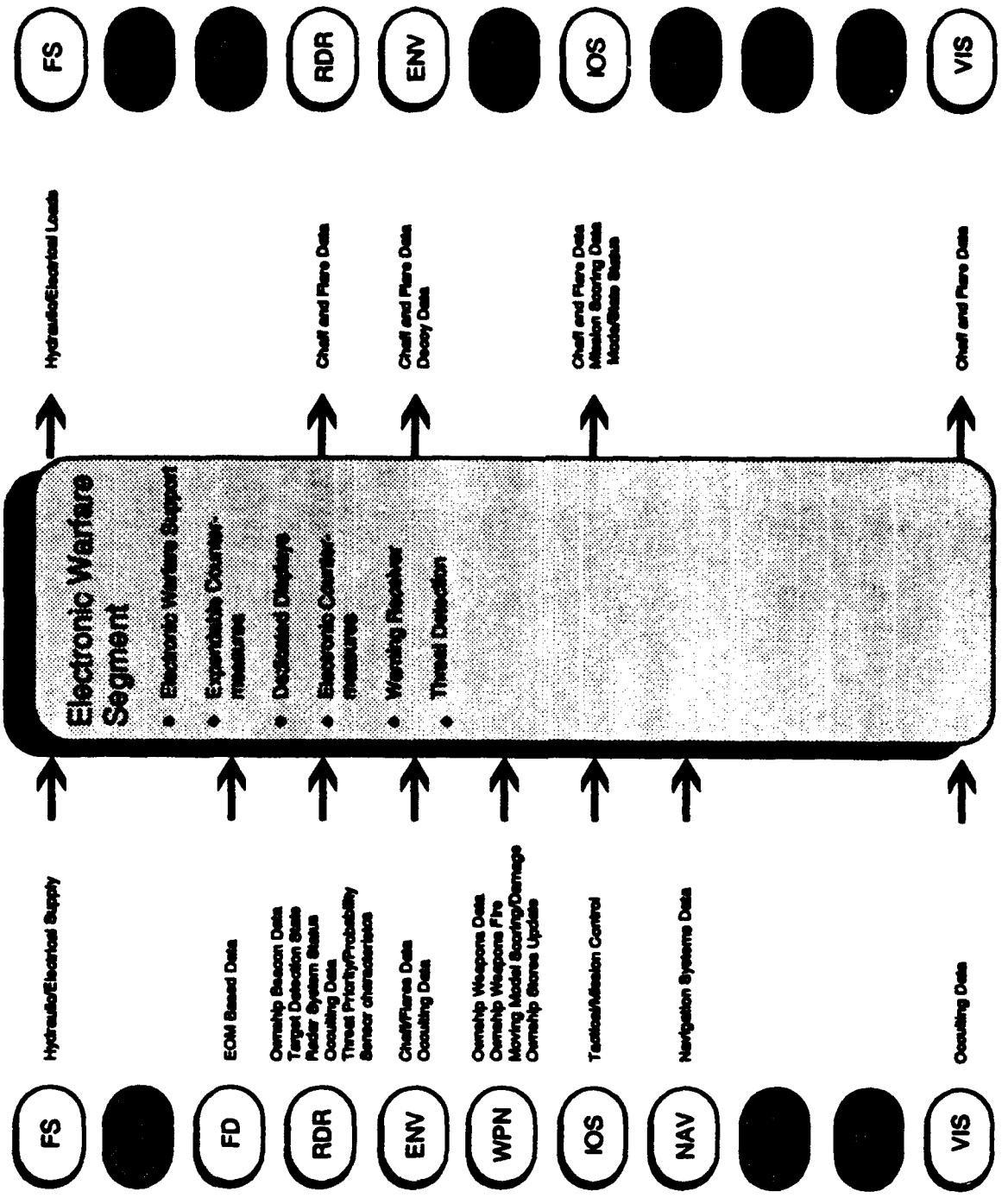

Figure 3.1-10 Electronic Warfare Segment

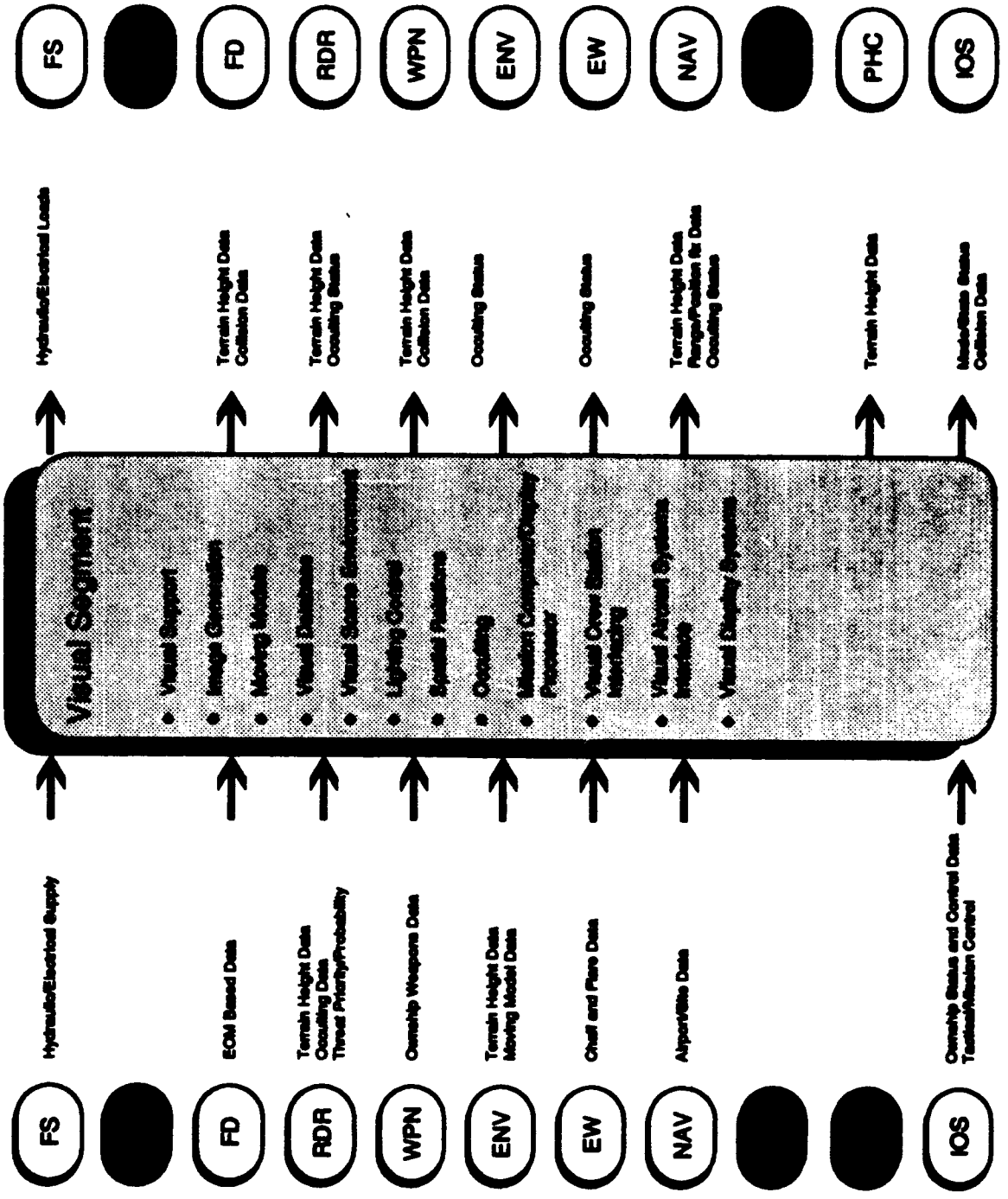

Figure 3.1-11 Visual Segment

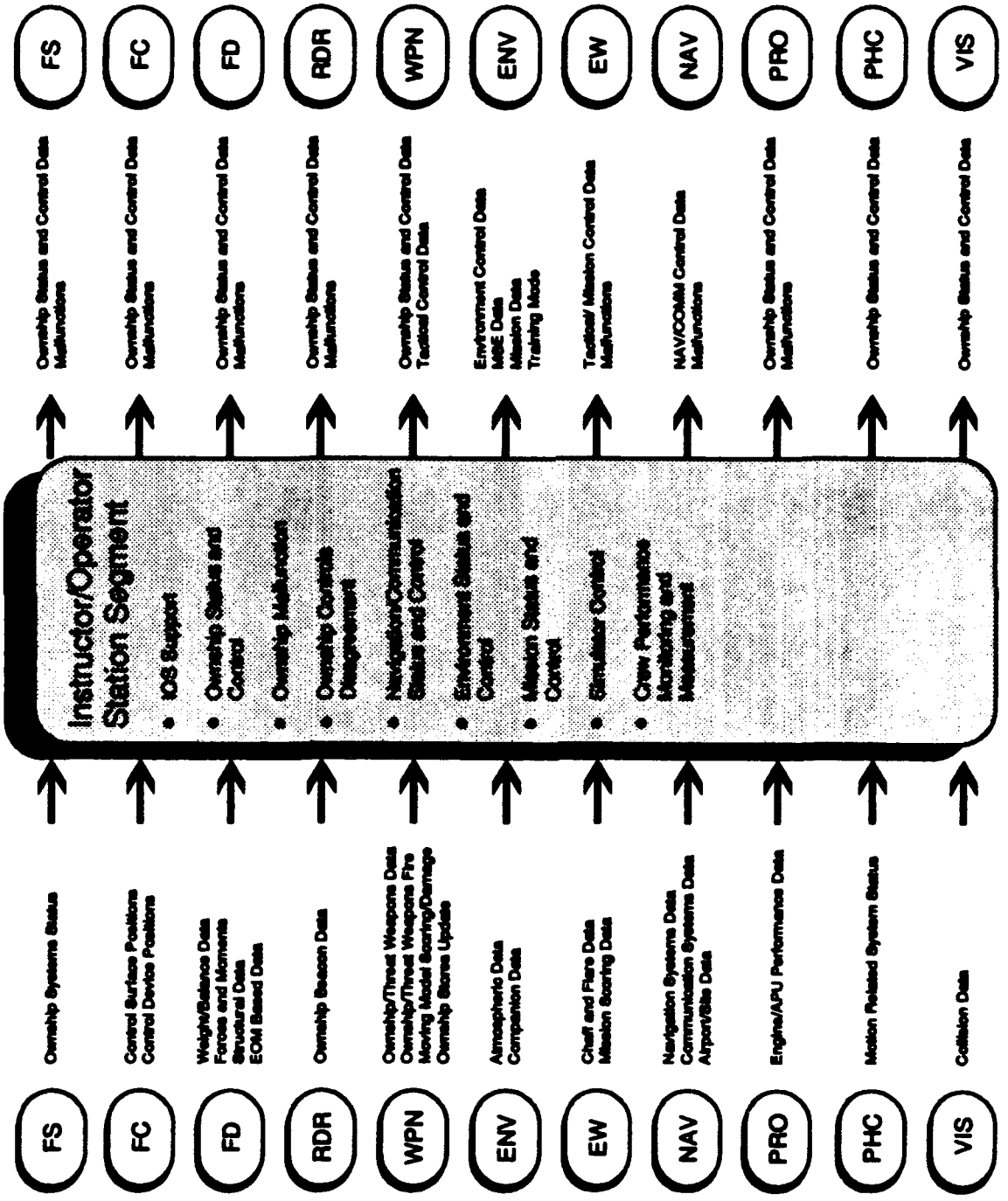

Figure 3.1-12 Instructor/Operator Station Segment

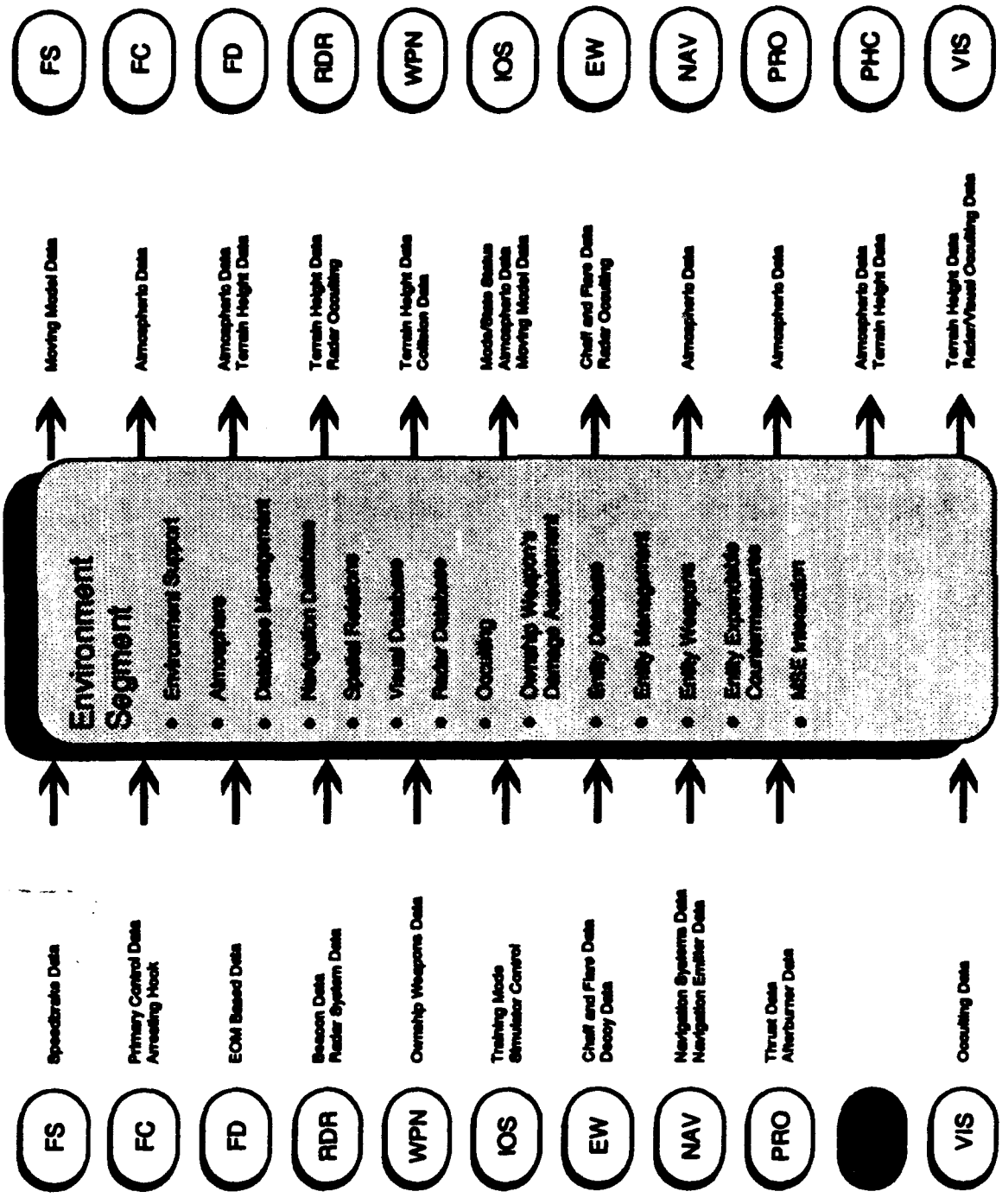

Figure 3.1-13 Environment Segment

3.2.1 Interface Requirements. The *(insert application aircraft)* MSS design shall be implemented in a manner consistent with the functional allocation and interfacing rules of the generic MSS. The following paragraphs describe the inter-segment communication requirements for the *(insert application aircraft)* MSS. These requirements are applicable to all segments within the *(insert application aircraft)* MSS.

(This paragraph should not require tailoring, other than inserting the application aircraft identifier.)

3.2.1.1 Synchronization and Timing. Each segment shall assume execution as a "black" box component, i.e., no segment design shall assume that any particular subset of segments have executed before or will execute after the segment.

3.2.1.1.1 Synchronization. All system level timing and synchronization shall be initiated by the Instructor Operator Station (IOS) segment. The IOS segment shall provide a top priority, broadcast, synchronization message, known as "clock tick" message, at the beginning of each frame. The frequency of the synchronization message shall be *(insert maximum frequency value)* Hertz. The format and definition of the clock tick message shall be as defined in the *(insert application aircraft)* MSS IDD, Appendix A. Each segment shall commence execution of the software for the corresponding frame upon receipt of the synchronization message.

The synchronization message shall be generated by the IOS segment and transmitted to all segments when in the system mode, mission generation mode, remote controlled diagnostic mode, training mode, reset mode, shutdown mode and memory erase mode.

Intra-segment synchronization methodologies (internal to each segment) are not constrained by this specification so long as such methodologies allow the segment to meet or exceed the requirements specified herein.

(This paragraph must be tailored to define the specific synchronization requirements for this application aircraft MSS. In general, this will consist of inserting the data values called for in the paragraph.)

3.2.1.1.2 Timing. The following timing requirements shall apply to all segments in the *(insert application aircraft)* MSS:

a. The base rate and highest iteration rate for the *(insert application aircraft)* MSS shall be *(insert maximum frequency rate value)* Hertz. This is the rate of the synchronization

(clock tick) message on the VNET and the frame rate. Segment internal processing shall be conducted sufficient to ensure that the segment input/output is provided at the specified rate.

b. Message transmission within a frame via the VNET shall be distributed. This means that when a segment completes the computations which would allow a message to be transmitted, the segment shall send that message immediately. Segments shall not wait until the end of the frame to transmit their messages.

c. All message transmissions for a segment in each frame shall start no sooner than ***(insert maximum delay time value)*** milliseconds and no later than ***(insert minimum delay time value)*** milliseconds after frame start. This requirement is not applicable to the synchronization (clock tick) message, which shall always start each frame.

d. Segment processing shall be evenly loaded or balanced among the available simulation frames within a cycle (a cycle being the total number of frames in one second). The frame assignments for each segment shall be as specified the ***(insert application aircraft)*** MSS IDD, Appendix B. All segments shall be designed to allow for additional fine tuning adjustments to the specified frame assignments during system integration, so as to more evenly distribute VNET traffic throughout the simulation cycle.

(This paragraph must be tailored to define the specific timing requirements for this application aircraft MSS. In general, this will consist of inserting the data values called for in the paragraph.)

3.2.1.1.3 Cue Correlation. Simulated cues for the ***(insert application aircraft)*** MSS shall have no noticeable errors in correlatable factors such as time, position, velocity or acceleration. As a minimum, all cues provided by the Physical Cues segment, Visual segment and Flight Station segment shall be properly synchronized with all other segments. These cues shall be correlated to within ***(insert maximum time value)*** milliseconds.

Cue correlation transport delay (delay between any synchronized cue) shall not exceed ***(insert maximum time value)*** milliseconds, including the inherent delay of the installed visual system. The system shall respond to abrupt pitch, roll and yaw inputs within the specified transport delay, but not before the time when the actual ***(insert application aircraft)*** would have responded under the same conditions.

All visual scene changes from a steady state condition shall occur within the specified transport delay but not before the resultant physical cue onset.

(This paragraph must be tailored to identify the cue correlation requirements for this application aircraft MSS. In general, this will consist of inserting the data values called for in the paragraph. Cue correlation requirements will be application aircraft specific. It is suggested that FAA Circular 120-40 be used as a guide.)

3.2.1.2 Inter-Segment Communication Protocol. All inter-segment communication in the ***(insert application aircraft)*** MSS shall be via the VNET. The VNET shall serve as the only communication path between segments. The specific implementation and design of the VNET shall be transparent to the individual segments. Each segment shall communicate with the VNET using the inter-segment interfaces and a set of common interface processing services that will allow each segment to send messages, receive messages, and perform other functions as required by the application. The VNET interface processing services are called Application Services and fully discussed in the ***(insert application aircraft)*** MSS IDD.

(This paragraph should not requiring tailoring. There are a two issues that are important to inter-segment communication. The first is that the control of inter-segment interfacing needs to be accomplished in one place. The second is that the interface does not need to assume/preclude a particular hardware interface system. The inter-segment communication should be accomplished in only one place within a segment. This requires that all segment communication be accomplished in a common place and way. This will help better define and control interfaces as well as facilitating the localization of segments.)

3.2.1.3 HWCI Interface Requirements. The ***(insert application aircraft)*** MSS interfaces with HWCIs shall be accomplished in accordance with the requirements described in the following paragraphs.

(This paragraph should not require tailoring, other than inserting the application aircraft identifier.)

3.2.1.3.1 General Purpose Data Controls and Displays. The ***(insert application aircraft)*** MSS general purpose controls and displays shall interface via the Flight Station segment. The Flight Station segment shall be responsible for processing such data as required to drive the displays and report status of controls. All other segments shall send and receive control and display data to and from the Flight Station segment via the MSS VNET. Such data shall be in the form of engineering

units, as specified in *(insert application aircraft)* MSS IDD, Appendix A. The Flight Station segment shall be responsible for processing this data as required to drive the control or display to the respective position or indication.

(This paragraph must be tailored to identify the specific raw data controls and displays utilized in the application aircraft MSS. The physical and logical details of the interface must be stated in the IDD.)

3.2.1.3.2 Tightly Coupled Controls and Displays. The *(insert application aircraft)* MSS tightly coupled controls and displays may interface via a dedicated backdoor interface to the associated segments and not via the MSS VNET to the Flight Station segment. The affected segment shall be responsible for processing the data necessary to drive displays and report status of controls. Tightly coupled controls and displays are those for which control and display are both dedicated and complex. The performance of the such devices are highly integrated with the performance of related simulations in the associated segments. Examples of such devices are those which are tightly coupled to a specific function in a particular segment, such as dedicated Control Display Units (CDU's), primary flight controls (stick, rudder), threat warning display computers, etc. The interface requirements for tightly coupled controls and displays shall also apply where transport delay must be minimized.

(This paragraph must be tailored to identify the specific tightly coupled controls and displays utilized in the application aircraft MSS, and their segment allocations. The physical and logical details of the interface must be stated in the IDD. If the device requires power from the Flight Station segment these requirements should be defined in this paragraph. Note that the interfaces identified in Appendix A of the IDD may require some modification. If this MSS does not utilize such devices, this paragraph must prohibit them.)

3.2.1.3.3 Installed Avionic Buses and Processors. The *(insert application aircraft)* MSS Segment installed avionic buses and processors may communicate via a dedicated backdoor interface and not via the VNET to an interfacing segment. Examples of such devices include actual aircraft data buses and processors which possess time critical communication requirements. Data transferred via installed avionics data buses shall be restricted to only that data necessary to support the avionics installed in the simulator. Segments shall not use the communication path with aircraft busses and processors as an alternate, general-use communication channel to other segments. All purely inter-segment communication must use the MSS VNET exclusively.

(This paragraph must be tailored to identify the specific installed avionics buses and processors utilized in the application aircraft MSS, and their segment allocations. The physical and logical details of the interface must be stated in the IDD. If this MSS does not utilize such devices, this paragraph must prohibit them.)

3.2.1.3.4 Integrated Systems. The ***(insert application aircraft)*** MSS integrated systems shall interface as defined in paragraph 3.2.1.3.3. When simulation models are used to replace actual aircraft integrated systems, the model shall be decomposed by components and allocated to the various MSS segments consistent with the fundamental partitioning. Where possible, a model should be allocated to a single segment. Examples of such integrated systems are Integrated Communications Navigation Identification Avionics (ICNIA), Integrated Navigation Electronic Warfare System (INEWS), Vehicle Management System (VMS), Mission Computers, etc.

(This paragraph must be tailored to identify the specific integrated systems utilized in the application aircraft MSS, and their segment allocations. The details of the interface must be stated in the IDD. Notice that use of integrated simulation models may require revision of specific message content in the IDD. If this MSS does not utilize such devices, this paragraph must prohibit them.)

3.2.1.4 Coordinate System. The coordinate system utilized on the MSS VNET shall be the WGS-72 earth axis coordinate system. Individual segments which use other coordinate systems internally shall perform any transformation necessary to conform to the WGS-72 earth axis system, when communicating such information via the VNET.

3.2.1.5 Excluded Data. Digital video data, graphical imaging data, and other unprocessed data shall not be transmitted via the MSS VNET during real-time operation. Graphical imaging data includes streams of lines and symbols, streams of range, elevation and azimuth angles. All data transmitted via the VNET shall be as defined in Appendix A of the ***(insert application aircraft)*** MSS IDD.

(This paragraph must tailored to define the specific kinds of data transmission through the VNET that are prohibited for the application aircraft MSS. The foregoing is the data exclusion for the demonstration MSS. The intent of this requirement is to eliminate the chances for saturation of the VNET. Transfer of large data files or data that requires excessive VNET bandwidth should be identified. If such large runtime data transfers are necessary in this application aircraft, this paragraph should be tailored to indicate where its handling is addressed.)

3.2.2 Data Requirements. The following paragraphs define requirements for interfaces between MSS segments via the VNET. Interfacing data elements shall be "messages". A MSS

message is a data structure that bundles many separate data items into an Ada computer language record which defines a unified interface. The specific contents of each field of the data elements (messages) in the interface messages, including units, limits, ranges, accuracy, precisions, resolutions, and names shall be identified in the ***(insert application aircraft)*** MSS IDD.

(This paragraph should not require tailoring, other than inserting the application aircraft identifier.)

3.2.2.1 Message Requirements. The MSS segments shall communicate via a set of well-defined messages. Paragraph 3.2.2.2 itemizes the required messages, sorted by originating segment. Appendix A of the ***(insert application aircraft)*** MSS IDD shall capture the design details of each message. The interface messages used with in the MSS shall meet the following general requirements:

(This paragraph must be tailored to define the theory for messages in this application aircraft MSS. Notice that any tailoring of this paragraph must be reflected in the following paragraphs and in the IDD.)

a. The interface shall aide in the independent development of each segment. Independent segment development requires interfaces which contain sufficient detailed information and stability to allow each segment design team member to develop and test their segment as a stand-alone entity.

Interfaces shall include the basic system properties of the data used in the interfaces. The basic properties shall include as a minimum basic machine characteristics and engineering units. The interfaces shall be based on an abstracted set of base types that are global to all interface types. The base types shall include integer, fixed point, floating point, and enumeration types.

b. The interface shall be well-defined and shall be specified in compilable Ada computer language.

(This sub-paragraph should not require tailoring. Traditional, English language interface specifications are ambiguous and difficult to interpret. Unlike the English language, computer languages operate on discrete and definable rules of interpretation. As required above, the MSS interfaces can be interpreted and checked by a compiler. The Ada software language can supply both the readability and control required for interface representation. Using Ada to define the interface will also allow the use of many unique data structures and design techniques, such as strong data typing, information hiding,

representation specifications and recompilation rules, that can promote a more generic, reusable interface.)

c. All interfaces shall have only one owner. The interface design shall assign origination responsibility of each interface message to a single segment.

(This sub-paragraph should not require tailoring. An interface that allows multiple segment modification is impossible to control. The interfaces must be created within in one segment and cannot be changed by any other. This will facilitate error determination and minimize integration problems.)

d. The interfaces shall be grouped according to purpose. Therefore, the ***(insert application aircraft)*** MSS interface design shall group (or package) interfaces by assigned segment (see paragraph 3.2.2.2).

(This sub-paragraph should not require tailoring. The implication of this requirement is that there will be an Ada package of interface types for each segment as well as a set of packages that contain the types that are shared between segments.)

e. The interfaces shall demonstrate support for the synchronization and timing requirements. The interface design shall define not only the content but also the suggested rate of data transfer between segments.

(This sub-paragraph should not require tailoring. The rate of transfer information is located in the IDD, Appendix B. The identification includes both periodic and aperiodic rate information.)

f. The interfaces shall be flexible so as not to limit segment design. The interface design shall specify the name, kind, class, and segment allocation of the messages. Appendix A of the ***(insert application aircraft)*** MSS IDD shall define the specific content of each message.

Interfaces shall be defined in a manner that the internal make up of the interface definition to easily adapt to system changes. This may be accomplished by the inclusion of unconstrained types, use of language attributes, and abstraction of system specifics. Interface changes shall be adaptable to system changes without extenssive recoding.

g. The interfaces shall not be dependent upon specific data transmission media and methods. The interface design shall reuse the generic message structure stated in this IRS

and shall specify the instantiation of the VNET in the *(insert application aircraft)* MSS IDD.

The interface design shall control the interfaces themselves not the interface transmission media. The interface definition shall facilitate a generic interface that can be transmitted via methods such as a hardware network, shared memory, or reflective memory. The purpose of the interface definition shall be to define and control the interface between segments and not prevent/restrict the method by which the interface will occur.)

3.2.2.2 Interface Messages. The segment interface messages for the *(insert application aircraft)* MSS shall be as shown in Tables 3.2.2.2-1 through 3.2.2.2-12. Further detailed interface data for each message shall be defined in Appendix A of the *(insert application aircraft type)* IDD.

(This paragraph should not require tailoring. Tables 3.2.2.2-1 through 3.2.2.2-12 should be tailored as required for the application. In general, at this level of interface definition there should be minimal tailoring. The majority of effort will be in tailoring the message destinations. The intent of this table is to show the connectivity and data flow between the segments. The detailed interface information should be provided in the IDD Appendix A. Therefore, this table does not contain the data requested by DI-MCCR-80026A items e thru h. This data and other details are included in Appendix A of the IDD.)

Send On Change	Message Name	Destination Segment
*	Flight_Station_Module_Mode_Select_Control_Reply	IOS
*	Flight_Station_Module_Training_Mode_Control_Reply	IOS
*	Flight_Station_Performance_Test_Response	IOS
*	Flight_Station_Off_Line_Diagnostic_Response	IOS
*	Flight_Station_Remote_Controlled_Diagnostic_Response	IOS
*	Flight_Station_On_Line_Diagnostic_Report	IOS
*	Flight_Station_Scoring_Report	IOS
	Electrical_System_Sixteenth_Rate_Outputs	NAV, IOS FD, EW, WPN, RDR, PRO, FC, VIS
	Electrical_System_Quarter_Rate_Outputs	PRO
	Hydraulic_System_Sixteenth_Rate_Outputs	IOS, FC
	Hydraulic_System_Quarter_Rate_Outputs	NAV, IOS FD, EW, WPN, RDR, PRO, FC, VIS
	Fuel_Management_System_Sixteenth_Rate_Outputs	IOS,FD
	Fuel_Management_System_Eighth_Rate_Outputs	PRO
	Pneumatic_System_Sixteenth_Rate_Outputs	PRO, IOS, PHC, FC
	Oxygen_System_Sixteenth_Rate_Outputs	IOS
	Crew_Station_Interface_Half_Rate_Outputs	NAV, IOS, FD, WPN, RDR, PRO, EW, VIS, PHC, FC

Table 3.2.2.2-1 Flight Station Segment Messages (1 of 3)

Send On Change	Message Name	Destination Segment
*	Flight_Station_Discrete_Change	NAV, WPN, IOS
	Navigation_AI_Max_Rate_Outputs	NAV, IOS
	Propulsion_AI_Max_Rate_Outputs	PRO, IOS
	Flight_Controls_AI_Max_Rate_Outputs	NAV, IOS, FD, WPN, RDR, PRO, EW, VIS, PHC, FC
	EW_AI_Max_Rate_Outputs	EW, IOS
	Radar_AI_Max_Rate_Outputs	RDR, IOS
	Weapons_AI_Max_Rate_Outputs	WPN, IOS
	Flight_Dynamics_AI_Max_Rate_Outputs	FD, IOS
	Physical_Cues_AI_Max_Rate_Outputs	PHC, IOS
	Visual_AI_Max_Rate_Outputs	VIS, IOS
	IOS_AI_Max_Rate_Outputs	IOS
*	Flight_Station_To_Navigation_ Discrete_Change	NAV
*	Flight_Station_To_Propulsion_ Discrete_Change	PRO, IOS
*	Flight_Station_To_Flight_Controls_ Discrete_Change	FC, IOS
*	Flight_Station_To_Weapons_ Discrete_Change	WPN
*	MFD_Mode_Outputs	NAV, WPN
*	SMS_Mode_Outputs	WPN
*	A_G_WPN_Mode_Outputs	WPN
*	Stores_Configuration	WPN, IOS
*	Weapon_Option_Outputs	WPN

Table 3.2.2.2-1 Flight Station Segment Messages (2 of 3)

Send On Change	Message Name	Destination Segment
*	Current_Jett_Station_COS	WPN
*	Current_Station_COS	WPN
*	UFC_Outputs	NAV
*	Speedbrake_Switch_COS	ENV, FC, IOS
*	Parking_Brake_Switch_COS	FC, IOS
*	Master_Arm_Switch_COS	WPN
*	JFS_Start_Switch_COS	PRO
*	EEC_BUC_Switch_COS	PRO
*	Starting_Fuel_Switch_COS	PRO
*	RALT_Power_Switch_COS	NAV
*	INS_Mode_Switch_COS	NAV
*	Instrument_Mode_Switch_Cos	NAV
*	Altimeter_Mode_Switch_Cos	NAV
*	Tacan_Data_Cos	NAV
*	Flight_Station_To_EW_Discrete_Change	EW, IOS
*	Flight_Station_To_Radar_Discrete_Change	RDR, IOS
*	Flight_Station_To_Flight_Dynamics_ Discrete_Change	FD, IOS
*	Flight_Station_To_Visual_Discrete_Change	VIS, IOS
*	Flight_Station_To_Physical_Cues_ Discrete_Change	PHC, IOS
*	Flight_Station_To_IOS_Discrete_Change	IOS

Table 3.2.2.2-1 Flight Station Segment Messages (3 of 3)

Send On Change	Message Name	Destination Segment
	Primary_Controls_Max_Rate_Outputs	ENV, FD, FS, IOS, PHC
	Misc_Control_Devices_Quarter_Rate_Outputs	ENV, FD, FS, IOS, PHC
*	Current_Arresting_Hook_State	ENV, FD, FS
	Trim_Max_Rate_Outputs	FD, FS
	Toe_Brakes_and_Anti_Skid_Quarter_Rate_Outputs	FD, PHC
	AFCS_Quarter_Rate_Outputs	FS
	Flight_Controls_Support_Eighth_Rate_Outputs	FS
*	Flight_Controls_Discrete_Change	FS
*	Flight_Controls_Module_Mode_Selection_Control_Reply	IOS
*	Flight_Controls_Module_Training_Mode_Control_Reply	IOS
*	Flight_Controls_Performance_Test_Response	IOS
*	Flight_Controls_Off_Line_Diagnostic_Response	IOS
*	Flight_Controls_Remote_Controlled_Diagnostics_Response	IOS
*	Flight_Controls_On_Line_Diagnostic_Report	IOS
*	Flight_Controls_Scoring_Report	IOS

Table 3.2.2.2-2 Flight Controls Segment Messages

Send On Change	Message Name	Destination Segment
	Equations_of_Motion_Max_Rate_Outputs	ENV, EW, FC, IOS, NAV, PHC, PRO, RDR, VIS, WPN
	Equations_of_Motion_Quarter_Rate_Outputs	ENV, EW, FC, IOS, NAV, PHC, PRO, WPN
*	Stall_Onset	NAV
	Weight_and_Balance_Eighth_Rate_Outputs	FS, IOS, NAV
	Forces_and_Moments_Eighth_Rate_Outputs	FC, FS, NAV, PHC, PRO, WPN
*	Touchdown_Message	VIS, IOS, FS, FC
*	Ownship_Structural_Crash	ENV, IOS
*	Flight_Dynamics_Module_Mode_Selection_Control_Reply	IOS
*	Flight_Dynamics_Module_Training_Mode_Control_Reply	IOS
*	Flight_Dynamics_Performance_Test_Response	IOS
*	Flight_Dynamics_Off_Line_Diagnostic_Response	IOS
*	Flight_Dynamics_Remote_Controlled_Diagnostics_Response	IOS
*	Flight_Dynamics_On_Line_Diagnostic_Report	IOS
*	Flight_Dynamics_Scoring_Report	IOS

Table 3.2.2.2-3 Flight Dynamics Segment Messages

Send On Change	Message Name	Destination Segment
	Engine_Inlet_System_Quarter_Rate_Outputs	FS, IOS
	Core_Engine_Half_Rate_Outputs	FS, IOS, PHC
	Thrust_Generation_Quarter_Rate_Outputs	IOS, PHC, ENV, FD, FS
*	Afterburner_Fired	ENV, FD, FS
*	Engine_Fired	FD, FS, PHC
	Engine_Bleed_Air_System_Quarter_Rate_Outputs	FS, IOS
	Transmission_System_Quarter_Rate_Outputs	FD, FS
	Auxiliary_Power_Unit_System_Quarter_Rate_Outputs	FS, IOS, PHC
	Engine_Fuel_System_Quarter_Rate_Output	FS, IOS
	Engine_Exhaust_System_Half_Rate_Output	FS
	Engine_Oil_System_Eighth_Rate_Output	FS, IOS
	Propulsion_Support_Sixteenth_Rate_Outputs	FS
*	Propulsion_Module_Mode_Selection_Control_Reply	IOS
*	Propulsion_Module_Training_Mode_Control_Reply	IOS
*	Propulsion_Performance_Test_Response	IOS
*	Propulsion_Off_Line_Diagnostic_Response	IOS
*	Propulsion_Remote_Controlled_Diagnostics_Response	IOS
*	Propulsion_On_Line_Diagnostic_Report	IOS
*	Propulsion_Discrete_Outputs	FS
*	Propulsion_Scoring_Report	IOS

Table 3.2.2.2-4 Propulsion Segment Messages

Send On Change	Message Name	Destination Segment
	AHRS_Quarter_Rate_Outputs	FS, EW, RDR
	INS_Half_Rate_Outputs	FS, EW, RDR, WPN, FC, IOS
	INS_Quarter_Rate_Outputs	FS, IOS, FC, EW
	INS_Eighth_Rate_Outputs	FS, IOS
*	Position_Update	RDR
*	Waypoint_Change_Output	IOS, FS
	Radar_Alt_Eighth_Rate_Outputs	FS, FC, EW
	ILS_Half_Rate_Outputs	IOS, FS, FC
	TACAN_Quarter_Rate_Output	FS, FC, EW, IOS
	TACAN_Eighth_Rate_Output	FS, IOS
	UHF_VHF_HF_Intercom_Eighth_Rate_Output	FS, IOS
	IFF_Eighth_Rate_Output	FS, IOS, RDR, EW
	ADS_Half_Rate_Output	FS, PRO, FC, IOS
	ADS_Eighth_Rate_Output	FS, IOS, EW
	Navigation_Support_Eighth_Rate_Output	FS
	Command_Steering_Max_Rate_Outputs	FS
	HUD_Symbology_Max_Rate_Outputs	FS
	Navigation_Emitter_Unique_Data	ENV
*	Navigation_Communication_Discrete_Output	FS, FC, WPN, RDR, EW, IOS, PRO

Table 3.2.2.2-5 Navigation/Communication Segment Messages
(1 of 2)

Send On Change	Message Name	Destination Segment
*	Navigation_Communication_Module_ Mode_Selection_Control_Reply	IOS
*	Navigation_Communication_Module_ Training_Mode_Control_Reply	IOS
*	Navigation_Communication_ Performance_Test_Response	IOS
*	Navigation_Communication_ Remote_Controlled_Diagnostics_	IOS
*	Remote_Controlled_Diagnostics_Response	IOS
*	Navigation_Communication_Off_Line_ Diagnostic_Response	IOS
*	Navigation_Communication_On_Line_ Diagnostic_Report	IOS
*	Navigation_Communication_Scoring_Report	IOS

Table 3.2.2.2-5 Navigation/Communication Segment Messages
(2 of 2)

Send On Change	Message Name	Destination Segment
	Ownship_Fire_Control_Eighth_Rate_Outputs	FS
*	Ownship_Weapon_Fire_Occurrence	ENV, VIS, PHC, IOS, EW, FD, FS
	Ownship_Weapon_Dynamics_Half_Rate_Outputs	ENV, RDR, IOS, VIS, FS, EW, NAV
*	Ownship_Stores_Data_Update	ENV, FD, IOS,FS
*	Ownship_Damage_Occurrence	ENV, IOS, PRO, FS, NAV, VIS, RDR, PHC, EW, FD, FC
*	Ownship_Scoring_Activation	EW, IOS
*	Weapons_Discrete_Data_Change	ENV, FS
*	Weapon_Deactivation	ENV, RDR, VIS, IOS, EW
*	Weapons_Module_Mode_Selection_ Control_Reply	IOS
*	Weapons_Module_Training_Mode_Control_Reply	IOS
*	Weapons_Performance_Test_Response	IOS
*	Weapons_Off_Line_Diagnostic_Response	IOS
*	Weapons_Remote_Controlled_ Diagnostics_Response	IOS
*	Weapons_On_Line_Diagnostic_Report	IOS
*	Weapons_Scoring_Report	IOS
*	Jettison_Status_Cos_Output	ENV, FS
*	HUD_Max_Rate_Output	FS
*	Stores_Config	FS, IOS

Table 3.2.2.2-6 Weapons Segment Messages

Send On Change	Message Name	Destination Segment
*	Radar_Module_Mode_Selection_Control_Reply	IOS
*	Radar_Module_Training_Mode_Control_Reply	IOS
*	Radar_Performance_Test_Response	IOS
*	Radar_Off_Line_Diagnostic_Response	IOS
*	Radar_Remote_Controlled_ Diagnostics_Response	IOS
*	Radar_On_Line_Diagnostic_Report	IOS
*	Radar_Scoring_Report	IOS
*	Radar_Emitter_Unique_Data	ENV
	Image_Generation_Moving_Models_ Half_Rate_Outputs	WPN
	Image_Generation_Moving_Models_ Quarter_Rate_Outputs	EW
*	Air_To_Air_Reject_Data_Change	WPN
*	Designated_Air_To_Ground_Data_Change	WPN
*	Air_To_Ground_Reject_Data_Change	WPN
*	Moving_Model_Data_Update_Rate_Change	ENV, EW, WPN, FD, VIS
*	Ownship_Beacon_Data_Change	ENV, EW, FD, IOS
*	IFF_Airborne_Interrogate_Data_Change	NAV
*	TF_TA_Data_Change	FC
	Mission_Computer_Interface_Half_ Rate_Outputs	EW, VIS
*	Mission_Computer_Sensor_Data_Change	EW, VIS
*	Sensor_Fused_Discernable_ Characteristics_Change	EW, VIS

Table 3.2.2.2-7 Radar Segment Messages (1 of 2)

Send On Change	Message Name	Destination Segment
*	Threat_Probability_Data_Change	EW, VIS
*	Threat_Priority_Data_Change	EW, VIS
*	Dynamic_Radar_Data_Change	EW
*	Radar_Position_Range_Update_Output	NAV
*	Radar_Groundspeed_Update_Change	ENV, NAV
*	Radar_Occulting_Data_Change	ENV, VIS, EW, RDR
	Radar_Aircraft_Systems_Interface_Eighth_ Rate_Outputs	FS
*	Radar_Discrete_Data_Change	FS

Table 3.2.2.2-7 Radar Segment Messages (2 of 2)

Send On Change	Message Name	Destination Segment
	Ownship_Chaff_And_Flares_Half_Rate_Outputs	VIS, IOS, ENV, RDR
	Ownship_Chaff_And_Flares_Sixteenth_Rate_Outputs	VIS, IOS, ENV, RDR
	Ownship_ECM_Half_Rate_Outputs	ENV, RDR, VIS, IOS, NAV
*	Decoy_Unique_Data	ENV, RDR, VIS, IOS, NAV
	Pods_and_Controls_Eighth_Rate_Outputs	FS
*	Electronic_Warfare_Discrete_Data_Change	FS
*	Electronic_Warfare_Module_Mode_Selection_Control_Reply	IOS
*	Electronic_Warfare_Module_Training_Mode_Control_Reply	IOS
*	Electronic_Warfare_Performance_Test_Response	IOS
*	Electronic_Warfare_Off_Line_Diagnostic_Response	IOS
*	Electronic_Warfare_Remote_Controlled_Diagnostics_Response	IOS
*	Electronic_Warfare_On_Line_Diagnostic_Report	IOS
*	Electronic_Warfare_Scoring_Report	IOS

Table 3.2.2.2-8 Electronic Warfare Segment Messages

Send On Change	Message Name	Destination Segment
*	Motion_Related_System_State	IOS
*	Physical_Cues_Module_Mode_ Selection_Control_Reply	IOS
*	Physical_Cues_Module_Training_ Mode_Control_Reply	IOS
*	Physical_Cues_Performance_Test_Response	IOS
*	Physical_Cues_Off_Line_ Diagnostic_Response	IOS
*	Physical_Cues_Remote_Controlled_ Diagnostics_Response	IOS
*	Physical_Cues_On_Line_Diagnostic_Report	IOS
*	Physical_Cues_Scoring_Report	IOS

Table 3.2.2.2-9 Physical Cues Warfare Segment Messages

Send On Change	Message Name	Destination Segment
*	Visual_Module_Mode_Selection_Control_Reply	IOS
*	Visual_Module_Training_Mode_Control_Reply	IOS
*	Visual_Performance_Test_Response	IOS
*	Visual_Off_Line_Diagnostic_Response	IOS
*	Visual_Remote_Controlled_Diagnostics_Response	IOS
*	Visual_On_Line_Diagnostic_Report	IOS
*	Visual_Scoring_Report	IOS
*	Visual_Position_Range_Update_Output	NAV
*	Visual_Occulting_Data_Change	ENV, NAV, EW, RDR
*	Visual_Discrete_Data_Change	FS
	Visual_Aircraft_Systems_Interface_Eighth_Rate_Output	FS
	Visual_Aircraft_Systems_Interface_Eighth_Rate	FS

Table 3.2.2.2-10 Visual Segment Messages

Send On Change	Message Name	Destination Segment
*	Mode_Selection_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Training_Mode_Selection_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Quick_Action_Task_Message	PRO, NAV
*	Run_Mode_Freeze_Message	FD, FS
*	Visual_Eyepoint_Active	VIS
*	Simulator_Control_Discrete_Message	ENV, FD, FC, FS, VIS, PHC, RDR, NAV, WPN, EW, PRO
*	Performance_Test_Request_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Snapshot_Function_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Record_Request_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC

Table 3.2.2.2-11 Instructor Operator Station Segment Messages
(1 of 5)

Send On Change	Message Name	Destination Segment
*	Playback_Request_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Off_Line_Diagnostic_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Remote_Controlled_Diagnostics_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	On_Line_Diagnostic_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Time_Change_Message	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR
*	Multiple_Simulator_Environment_Message	ENV
	Clock_Tick_Message_Max_Rate	ENV, FD, FC, FS, PRO, NAV, EW, WPN, VIS, RDR, PHC
*	Parameter_Slew_Message	FD
*	Add_Cargo_Message	FD
*	External_Connection_Message	FD, FS, PHC

Table 3.2.2.2-11 Instructor Operator Station Segment Messages (2 of 5)

Send On Change	Message Name	Destination Segment
*	Parameter_Change_Message	FD, PRO, VIS, FS
*	Hydraulic_Fluid_Quantity_Change_Message	FS
*	Fuel_Quantity_Change_Message	FS
*	Reset_Message	FS, PRO, FC, WPN
*	Icing_Level_Adjustment_Message	ENV, FD, PRO
*	Engine_Oil_Quantity_Adjustment_Message	PRO
*	IOS_Discrete_Request_Message	FD, NAV, PHC, FC
*	Malfunction_Message	ENV, FD, PRO, NAV, RDR, WPN, EW, FC, FS
*	Waypoint_Change_Message	NAV
*	Platform_Radio_Set_Message	NAV
*	Training_Area_Boundary_Message	ENV, NAV, EW, WPN, VIS, RDR
*	Ownship_Position_Change_Demand	ENV, FD, NAV, EW, VIS, RDR
*	Wind_Shear_Message	ENV
*	Wind_Direction_Set_Message	ENV
*	Wind_Speed_Set_Message	ENV
*	Wind_Position_Message	ENV
*	Wind_Intensity_Message	ENV
*	Turbulence_Demand_Message	ENV, PHC
*	Runway_Surface_Condition_Message	ENV, FD, VIS

Table 3.2.2.2-11 Instructor Operator Station Segment Messages
(3 of 5)

Send On Change	Message Name	Destination Segment
*	Runway_Condition_Reading_Message	ENV, FD, VIS
*	Pressure_Demand_Message	ENV
*	Temperature_Demand_Message	ENV
*	Visual_Model_Database_Message	ENV, VIS
*	Thunderstorm_Dynamic_Data_Message	VIS, RDR, ENV, PHC
*	Thunderstorm_Intensity_Message	ENV, VIS, RDR, PHC
*	Lighting_Adjustment_Message	ENV, NAV, VIS
*	Environmental_Adjustment_Message	ENV, NAV, VIS, RDR, PHC, FD
*	Visual_Range_Adjustment_Message	ENV, VIS
*	Cloud_Level_Adjustment_Message	ENV, VIS
*	Time_Of_Year_Message	NAV, VIS
*	Temperature_Profile_Message	ENV
*	Temperature_Lapse_Rate_Message	ENV
*	Wind_Speed_Lapse_Rate_Message	ENV
*	Wind_Direction_Lapse_Rate_Message	ENV
*	Moving_Model_Dynamic_Data_Message	ENV, EW, NAV, RDR, VIS, WPN
*	Moving_Model_Deactivation_Message	ENV, EW, NAV, RDR, VIS, WPN
*	Chaff_Creation_Message	ENV, EW, NAV, RDR, VIS, WPN

Table 3.2.2.2-11 Instructor Operator Station Segment Messages
(4 of 5)

Send On Change	Message Name	Destination Segment
*	Flare_Creation_Message	ENV, EW, NAV, RDR, VIS, WPN
*	Decoy_Creation_Message	ENV, EW, NAV, RDR, VIS, WPN
*	Platform_Creation_Message	ENV, EW, NAV, RDR, VIS, WPN
*	Tanker_Creation_Message	ENV
*	Emitter_Set_Message	ENV, EW, NAV, RDR
*	Battle_Damage_Set_Message	ENV, EW, FD, RDR, VIS, WPN
*	Model_Lighting_Set_Message	ENV, VIS
*	Articulated_Device_Set_Message	ENV, RDR, VIS
*	Weapon_Load_Set_Message	EW, FD, VIS, WPN
*	Weapon_Fire_Command_Message	EW, VIS, WPN
*	Moving_Model_Complexity_Set_Message	ENV
*	IFF_Set_Message	EW, NAV, RDR

Table 3.2.2.2-11 Instructor Operator Station Segment Messages (5 of 5)

Send On Change	Message Name	Destination Segment
*	ENV_Module_Mode_Selection_Control_Reply	IOS
*	ENV_Module_Training_Mode_Control_Reply	IOS
*	ENV_Performance_Test_Response	IOS
*	ENV_Off_Line_Diagnostic_Response	IOS
*	ENV_Remote_Controlled_Diagnostics_Response	IOS
*	ENV_On_Line_Diagnostic_Report	IOS
*	ENV_Scoring_Report	IOS
*	Malfunction_Direction_Message	IOS
	Atmosphere_Quarter_Rate_Outputs	FD, FC, IOS, NAV, PHC, PRO
	Weather_Quarter_Rate_Outputs	FD
	Ownship_Height_Above_Terrain_Max_ Rate_Outputs	VIS, FD, NAV, RDR, WPN, PHC
	Moving_Models_Height_Above_ Terrain_Max_Rate_Outputs	NAV, RDR VIS, FD, WPN, PHC
*	Radar_Occulting_Data_Change	VIS, EW, RDR
*	Visual_Occulting_Data_Change	VIS, NAV, EW, RDR
*	Moving_Model_Damage_Occurrence	IOS, EW
*	Moving_Model_Scoring_Activation	EW, IOS
*	Threat_Weapon_Dynamics_Half_Rate_Outputs	RDR, VIS, IOS
*	Platform_Fire_Occurrence	PHC, EW, IOS
*	Platform_Stores_Data_Update	EW

Table 3.2.2.2-12 Environment Segment Messages (1 of 2)

Send On Change	Message Name	Destination Segment
	Threat_Platform_Dynamics_Half_ Rate_Outputs	WPN, NAV, EW, IOS, VIS, RDR
*	Threat_Platform_Unique_Data	EW, IOS, VIS, RDR, WPN, NAV, FS
	Companion_Vehicles_Half_Rate_Outputs	FD, EW, FS, IOS, NAV, RDR, VIS
*	Companion_Change_Data	FD, EW, FS, IOS, NAV, VIS, RDR, PHC
*	Tanker_Change_Data	FD, FS, IOS, NAV, VIS, RDR, PHC
*	Companion_Tanker_Model_Deactivate	FD, FS, IOS, NAV, VIS, RDR, PHC, EW
	External_Chaff_And_Flares_Half_ Rate_Outputs	VIS, IOS, EW, RDR
	External_Chaff_And_Flares_ Sixteenth_Rate_Outputs	VIS, IOS EW, RDR
*	Airports_Output	NAV, IOS, RDR, VIS, FD
*	NAV_Aid_Site_Output	NAV, RDR, VIS
*	Collision_Data_Change	VIS, WPN, FD, IOS

Table 3.2.2.2-12 Environment Segment Messages (2 of 2)

4. QUALITY ASSURANCE

None.

5. PREPARATION FOR DELIVERY

None.

6. NOTES

6.1 Acronyms and Abbreviations.

CDRL	Contract Data Requirement List
CDU	Control Display Unit
CSCI	Computational System Configuration Item
DOD	Department of Defense
ENV	Environment
EW	Electronic Warfare
FC	Flight Controls
FD	Flight Dynamics
FS	Flight Station
HWCI	Hardware Configuration Item
ICNIA	Integrated Communications Navigation Identification Avionics
IDD	Interface Design Document
INEWS	Integrated Navigation Electronic Warfare System
IOS	Instructor Operator Station
IRS	Interface Requirements Specification
MSS	Modular Simulation System
NAV	Navigation/Communication
PHC	Physical Cues
PRO	Propulsion
RDR	Radar
SSS	System/Segment Specification
TA/TF	Terrain Avoidance/Terrain Following
VIS	Visual
VMS	Vehicle Management System

VNET Virtual Network

WPN Weapons

(This paragraph must be tailored to reflect nomenclature unique to this application aircraft MSS.)

6.2 Glossary.

Backdoor Interface - A hardware or software interface, not utilizing the VNET, between a MSS segment and an associated component.

Communications Protocol - A scheme for information passing between fundamental components.

Cue Correlation - A training systems problem of matching simulated response apparent to crew actions.

Transport Delay - The time lapse between an action and its simulated result within the simulator.

Virtual Network - The framework for organization and interfacing of the fundamental MSS components.

WGS-72 Earth Axis Coordinate System - A standard definition, acceptable to DoD, for locating points on the globe.

(This paragraph must be tailored to reflect termonology unique to this application aircraft MSS.)

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